AMENDMENTS TO THE SPECIFICATION:

Please add the following new paragraphs after the paragraph ending at page 7, line 18:

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the invention, the objects and advantages thereof, reference is now made to the following descriptions taken in connection with the accompanying drawings in which:

Fig. 1 illustrates a phycobilisome-based biotransducer according to a preferred embodiment of the instant invention.

Please replace the paragraph beginning at page 51, line 28, with the following paragraph:

Figure 1 illustrates a phycobilisome-based biotransducer 100 according to a [[A]] particularly preferred embodiment of the instant invention. ~~is a phycobilisome based~~ Phycobilisome-based biotransducer 100 ~~comprising~~ comprises a phycobilisome or phycobilisome conjugate 110 functionally coupled to a transducer 120. Typically, the phycobilisome of a phycobilisome-based biotransducer is operatively associated with, attached to, immobilized at, packaged with, or otherwise structurally or functionally inseparable from the transducer. A phycobilisome-based biotransducer can also be a two-component (or multi-component) product or system comprising a transducer component and a disposable, replaceable, reusable or upgradeable phycobilisome-containing cartridge, module, slide, disk, film, layer, fiber, connector, attachment or part that serves as an interface between the phycobilisome and the transducer. In this case, the phycobilisome-containing component is physically separable from the transducer component but must be inserted, attached, rejoined or replaced to form the functionally coupled two-component system capable of performing the intended function. The functionally coupled transducer converts an activity, energy or property of the biological or biomimetic molecule(s) (e.g., the phycobilisome(s) or phycobilisome conjugate(s)) to useful work or information or a detectable signal. Transducers of the instant invention may be electronic, electrical, optical, optoelectronic, electromechanical, electrochemical, photochemical, thermal or acoustical devices and include, without limitation, optical fibers and waveguides, evanescent waveguides, light-addressable potentiometric devices, photovoltaic

devices, photoelectric and photochemical and photoelectrochemical cells, conducting and semiconducting substrates, molecular and nanoscale wires, gates and switches, charge-coupled devices, photodiodes, electrical and optoelectronic switches, imaging and storage and photosensitive media (e.g., films, polymers, tapes, slides, crystals and liquid crystals), photorefractive devices, displays, optical disks, digital versatile disks, amperometric and potentiometric electrodes, ion-selective electrodes, field effect transistors, interdigitated electrodes and other capacitance-based devices, piezoelectric and microgravimetric devices, surface acoustic wave and surface plasmon resonance devices, thermistors, and the like. These and other transducers, transduction principles and related devices are known to those of skill in the art (e.g., Taylor, RF (1990) Biosensors: Technology, Applications, and Markets, Decision Resources, Inc., Burlington, MA.), as are techniques for coupling artificial photosynthesis to electrical, electronic and optoelectronic devices (e.g., Gust et al. (1994)). Phycobilisome properties, energies or activities that can be functionally coupled to a transducer include, without limitation, mass, photon absorption or emission, specific binding, catalytic and other signal-generating activities using phycobilisome conjugates, reconstitution and dissociation reactions, and energy transfer to or from molecular species which are functionally coupled to the phycobilisome or phycobilisome complex (e.g., by electronic coupling, preferably by intimate intermolecular proximity and more preferably by covalent attachment, or alternatively by mass or energy transfer accompanying noncovalent interactions such as specific binding).